

**Additional file 1 Total phenolic content (TPC) and anthocyanin content (ACC) of berry extracts obtained with different solvents.**

Solvent	Black mulberry		Blackberry		Strawberry	
	TPC (g GAE/ kg DW)	ACC (g CGE/ kg DW)	TPC (g GAE/ kg DW)	ACC (g CGE/ kg DW)	TPC (g GAE/ kg DW)	ACC (g CGE/ kg DW)
W	33.45 ± 0.37 <sup>k</sup>	11.43 ± 0.44 <sup>h</sup>	16.56 ± 0.08 <sup>k</sup>	3.49 ± 0.08 <sup>f</sup>	16.59 ± 0.11 <sup>j</sup>	2.46 ± 0.01 <sup>i</sup>
M1	35.72 ± 0.17 <sup>j</sup>	28.59 ± 0.58 <sup>f</sup>	16.94 ± 0.27 <sup>jk</sup>	6.65 ± 0.06 <sup>de</sup>	18.25 ± 0.11 <sup>h</sup>	2.92 ± 0.00 <sup>f</sup>
M2	43.04 ± 0.43 <sup>i</sup>	30.30 ± 0.25 <sup>e</sup>	27.74 ± 0.20 <sup>g</sup>	7.50 ± 0.07 <sup>ab</sup>	24.63 ± 0.05 <sup>e</sup>	3.32 ± 0.06 <sup>bcd</sup>
M3	44.43 ± 0.51 <sup>h</sup>	32.87 ± 0.12 <sup>c</sup>	28.91 ± 0.10 <sup>f</sup>	6.75 ± 0.09 <sup>cd</sup>	23.00 ± 0.14 <sup>f</sup>	3.35 ± 0.10 <sup>abc</sup>
M4	36.56 ± 0.28 <sup>j</sup>	28.95 ± 0.38 <sup>f</sup>	17.54 ± 0.14 <sup>j</sup>	6.73 ± 0.15 <sup>cd</sup>	17.08 ± 0.18 <sup>i</sup>	3.42 ± 0.02 <sup>ab</sup>
M5	48.98 ± 0.35 <sup>de</sup>	36.92 ± 0.08 <sup>a</sup>	27.38 ± 0.43 <sup>g</sup>	7.55 ± 0.10 <sup>a</sup>	22.81 ± 0.16 <sup>f</sup>	3.49 ± 0.02 <sup>a</sup>
M6	50.95 ± 0.20 <sup>c</sup>	35.43 ± 0.25 <sup>b</sup>	31.37 ± 0.24 <sup>e</sup>	7.35 ± 0.13 <sup>ab</sup>	24.56 ± 0.26 <sup>e</sup>	3.29 ± 0.03 <sup>bcd</sup>
E1	10.33 ± 0.08 <sup>l</sup>	7.72 ± 0.08 <sup>l</sup>	8.65 ± 0.14 <sup>l</sup>	3.11 ± 0.08 <sup>g</sup>	12.99 ± 0.09 <sup>l</sup>	2.05 ± 0.01 <sup>j</sup>
E2	49.33 ± 0.37 <sup>d</sup>	34.87 ± 0.37 <sup>b</sup>	25.56 ± 0.29 <sup>h</sup>	6.67 ± 0.01 <sup>de</sup>	24.56 ± 0.07 <sup>e</sup>	3.24 ± 0.06 <sup>cd</sup>
E3	48.86 ± 0.15 <sup>def</sup>	31.53 ± 0.00 <sup>d</sup>	32.36 ± 0.17 <sup>d</sup>	6.72 ± 0.06 <sup>cd</sup>	26.67 ± 0.09 <sup>c</sup>	3.17 ± 0.05 <sup>de</sup>
E4	10.74 ± 0.03 <sup>l</sup>	7.39 ± 0.00 <sup>i</sup>	9.09 ± 0.06 <sup>l</sup>	3.08 ± 0.14 <sup>g</sup>	11.39 ± 0.05 <sup>m</sup>	1.67 ± 0.01 <sup>l</sup>
E5	48.03 ± 0.17 <sup>fg</sup>	31.69 ± 0.17 <sup>d</sup>	24.87 ± 0.10 <sup>i</sup>	6.45 ± 0.02 <sup>e</sup>	20.88 ± 0.03 <sup>g</sup>	2.92 ± 0.07 <sup>f</sup>
E6	51.92 ± 0.50 <sup>b</sup>	35.24 ± 0.25 <sup>b</sup>	31.75 ± 0.27 <sup>de</sup>	6.62 ± 0.08 <sup>de</sup>	26.17 ± 0.09 <sup>d</sup>	3.09 ± 0.05 <sup>e</sup>
A1	1.16 ± 0.02 <sup>m</sup>	nd	4.79 ± 0.03 <sup>m</sup>	nd	6.59 ± 0.01 <sup>n</sup>	nd
A2	57.44 ± 0.21 <sup>a</sup>	28.41 ± 0.13 <sup>f</sup>	42.81 ± 0.28 <sup>a</sup>	6.92 ± 0.01 <sup>c</sup>	29.55 ± 0.07 <sup>a</sup>	2.53 ± 0.07 <sup>hi</sup>
A3	47.78 ± 0.25 <sup>g</sup>	27.38 ± 0.13 <sup>g</sup>	40.39 ± 0.39 <sup>c</sup>	6.52 ± 0.02 <sup>de</sup>	29.58 ± 0.19 <sup>a</sup>	2.71 ± 0.02 <sup>g</sup>
A4	1.69 ± 0.02 <sup>m</sup>	nd	4.87 ± 0.02 <sup>m</sup>	nd	4.81 ± 0.05 <sup>o</sup>	nd
A5	48.27 ± 0.38 <sup>efg</sup>	27.37 ± 0.47 <sup>g</sup>	41.19 ± 0.15 <sup>b</sup>	6.73 ± 0.04 <sup>cd</sup>	28.31 ± 0.13 <sup>b</sup>	2.45 ± 0.05 <sup>i</sup>
A6	52.42 ± 0.45 <sup>b</sup>	30.52 ± 0.08 <sup>e</sup>	41.78 ± 0.21 <sup>b</sup>	7.30 ± 0.10 <sup>b</sup>	28.08 ± 0.12 <sup>b</sup>	2.67 ± 0.06 <sup>gh</sup>

Mean value ± standard deviation, n = 9. nd: not detected, DW: dry weight, TPC: total phenolic content, GAE: gallic acid equivalents, ACC: anthocyanin content, CGE: cyanidin 3-glucoside equivalents, W: water, M1: methanol, M2: methanol/water (70/30, v/v), M3: methanol/water (50/50, v/v), M4: methanol/acetic acid (99.5/0.5, v/v), M5: methanol/water/acetic acid (70/29.5/0.5, v/v/v), M6: methanol/water/acetic acid (50/49.5/0.5, v/v/v), E1: ethanol, E2: ethanol/water (70/30, v/v), E3: ethanol/water (50/50, v/v), E4: ethanol/acetic acid (99.5/0.5, v/v), E5: ethanol/water/acetic acid (70/29.5/0.5, v/v/v), E6: ethanol/water/acetic acid (50/49.5/0.5, v/v/v), A1: acetone, A2: acetone/water (70/30, v/v), A3: acetone/water (50/50, v/v), A4: acetone/acetic acid (99.5/0.5, v/v), A5: acetone/water/acetic acid (70/29.5/0.5, v/v/v), A6: acetone/water/acetic acid (50/49.5/0.5, v/v/v). Identical superscripts in the same row indicate no significant difference (p < 0.05).